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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/606,449	06/26/2003	Rounan Li	2523.2002-001	2958

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EXAMINER

MARCHESCHI, MICHAEL A

ART UNIT	PAPER NUMBER
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1755

DATE MAILED: 06/01/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/606,449

Applicant(s)

LI ET AL.

Examiner

Michael A Marcheschi

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-17 is/are pending in the application.
- 4a) Of the above claim(s) ____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) ____ is/are allowed.
- 6) ☒ Claim(s) 1-17 is/are rejected.
- 7) ☐ Claim(s) ____ is/are objected to.
- 8) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on ____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. ____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date 6/26/03
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. ____
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: ____

The specification is objected to because the continuing data is not updated (i.e. define that the parent application is patented)

Claims 16-17 are rejected under 35 U.S.C. § 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Claim 16 is indefinite as to the phrase "at least 15 percent" because the examiner is unclear as to what the units are. Is it weight percent or volume percent.

Claim 17 is indefinite because they depend on indefinite claims.

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless --

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

(e) the invention was described in a patent granted on an application for patent by another filed in the United States before the invention thereof by the applicant for patent, or on an international application by another who has fulfilled the requirements of paragraphs (1), (2), and (4) of section 371(c) of this title before the invention thereof by the applicant for patent.

The changes made to 35 U.S.C. 102(e) by the American Inventors Protection Act of 1999 (AIPA) and the Intellectual Property and High Technology Technical Amendments Act of 2002 do not apply when the reference is a U.S. patent resulting directly or indirectly from an international application filed before November 29, 2000. Therefore, the prior art date of the reference is determined under 35 U.S.C. 102(e) prior to the amendment by the AIPA (pre-AIPA 35 U.S.C. 102(e)).

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The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 1 and 3 are rejected under 35 U.S.C. 102(b) as anticipated by or, in the alternative, under 35 U.S.C. 103(a) as obvious over Giles, Jr. et al. (672).

Giles, Jr. et al. teach in column 3, line 2-column 5, line 68 and example 13, a method for making a vitreous bonded abrasive article comprising selecting a glass frit that contains zinc oxide and at least two alkali metal oxides (bond C of the reference), mixing a superabrasive grain and hollow bodies with the glass frit and firing in air at a temperature within the claimed range (column 5, lines 12-13 and example 13 define a temperature that is within the claimed range). The mixture, before firing, is said to be pressed.

The claimed invention is anticipated by the reference because said reference appears to teach all of the claimed limitations absent evidence to the contrary. In the alternative, no patentable distinction is seen to exist between the reference and the claimed invention absent evidence to the contrary.

Claims 2, 4-8, 10-11, 13-14 and 16 are rejected under 35 U.S.C. 103(a) as obvious over Giles, Jr. et al. (672).

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The limitation of claims 2 is obvious because, although example 13 defines a time limitation for the firing step, it is the examiners position that one skilled in the art would have found it obvious to vary this time, as long as the binder will form a vitreous bond. The claimed time would have proved to meet this absent evidence to the contrary. In other words, the use of any time limitation which will form the vitreous bond is obvious to the skilled artisan. The limitations of claims 4-6 are obvious because the reference defines ranges in terms of weight percent and it is the examiners position that when they are converted to volume percent, they will encompass the claimed values absent evidence to the contrary. With respect to claim 7, the reference teaches that the article includes porosity and the broad interpretation of porosity encompasses and therefore make obvious open porosity. With respect to the limitations of claims 8 and 10-11, bond C of the reference defines amounts for the alkali metal oxides and although this range is outside the range of instant claim 8, applicants use "about" to define this range and it is well known that "about" **permits some tolerance**, *In re Ayers*, 154 F 2d 182, 69 USPQ 109. In view of this, no distinction is seen to exist between the reference and the claimed invention (because "about" is used) in the absence of any evidence showing the contrary. The limitation of claim 13 is obvious because the reference uses the bubbles to create porosity and the screening out of any broken bubble is well with the level of ordinary skill in the art because broken bubbles will not produce the desired effect (create porosity). In view of claim 13 being obvious and that the reference states that the mixture is pressed, one skilled in the art would have known that to produce the desired porosity, the pressing step must be accomplished at a specific pressure which will not jeopardize the function of the bubbles (i.e. not break the bubbles). With respect to claim 16, the reference defines ranges in terms of weight percent and it is the

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examiners position that when they are converted to volume percent, they will encompass the claimed values, thus meeting the limitations of step (a) absent evidence to the contrary. With respect to step (b), the reference states that the mixture is molded and one skilled in the art would have known that to produce the desired porosity, the pressing step must be accomplished at a specific pressure which will not jeopardize the function bubbles (not break the bubbles).

Claims 15 and 17 are rejected under 35 U.S.C. 103(a) as obvious over Giles, Jr. et al. (672) in view of Itoh (225).

Itoh teaches in the abstract and column 4, lines 39-50 that vitreous bonded abrasive masses (rims) are known to be bonded (cemented) to a metal core.

It is the examiners position that one skilled in the art would have found it obvious to use the abrasive mass according to the primary reference in any conventional manner, such as the ones defined by the secondary reference. The examiner acknowledges that the primary reference is directed to grinding wheels, but the use of the vitrified mass as segments to be attached to a core is obvious to the skilled artisan absent evidence to the contrary.

Claims 1, 3, 4 and 5 are rejected under 35 U.S.C. 102(e) as anticipated by or, in the alternative, under 35 U.S.C. 103(a) as obvious over (1) Carman et al. (867) or (2) WO 01/70463

Carman et al. teach in the abstract, column 2, lines 35-40, column 4, line 27-68, column 7, line 47 and the claims, a method for making a vitreous bonded abrasive article comprising selecting a glass frit that can contain contains zinc oxide, at least two alkali metal oxides and

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barium oxide, mixing a superabrasive grain and hollow bodies with the glass frit and firing at a temperature within the claimed range. The mixture, before firing, is said to be pressed.

WO 01/70463 teaches in the abstract, page 3, line 25-page 7, line 34, page 13, lines 24-25 and the claims, a method for making a vitreous bonded abrasive article comprising selecting a glass frit that can contain contains zinc oxide, at least two alkali metal oxides and barium oxide, mixing a superabrasive grain and hollow bodies with the glass frit and firing at a temperature within the claimed range. The mixture, before firing, is said to be pressed.

The claimed invention is anticipated by the references because said references appear to teach all of the claimed limitations absent evidence to the contrary. In the alternative, no patentable distinction is seen to exist between the references and the claimed invention absent evidence to the contrary.

Claims 2, 6-14 and 16 are rejected under 35 U.S.C. 103(a) as obvious over (1) Carman et al. (867) (2) WO 01/70463.

The limitation of claims 2 is obvious because, although this limitation is not literally defined, it is the examiners position that one skilled in the art would have found it obvious to use any firing time, as long as the binder will form a vitreous bond. The claimed time would have proved to meet this absent evidence to the contrary. In other words, the use of any time limitation which will form the vitreous bond is obvious to the skilled artisan. The limitation of claim 6 is obvious because the reference defines the porosity range and it is the examiners position that the hollow particles must be used in the claimed range in order to produce said porosity. With respect to claim 7, the reference teaches that the article includes porosity and the broad interpretation of porosity encompasses and therefore make obvious open porosity. With

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respect to the limitations of claims 8-11, the references define amounts for the alkali metal oxides and zinc oxide and although these ranges are in terms of mole percent, it is the examiners position that when they are converted to volume percent, they will encompass the claimed values absent evidence to the contrary. The limitation of claim 12 is clearly defined. The limitation of claim 13 is obvious because the references use the bubbles to create porosity and the screening out of any broken bubble is well with the level of ordinary skill in the art because broken bubbles will not produce the desired effect (create porosity). In view of claim 13 being obvious and that the references state that the mixture is pressed, one skilled in the art would have known that to produce the desired porosity, the pressing step must be accomplished at a specific pressure which will not jeopardize the function of the bubbles (i.e. not break the bubbles). With respect to claim 16, the references define the porosity range and it is the examiners position that the hollow particles must be used in the claimed range in order to produce said porosity, thus meeting the limitations of step (a) absent evidence to the contrary. With respect to step (b), the references state that the mixture is molded and one skilled in the art would have known that to produce the desired porosity, the pressing step must be accomplished at a specific pressure which will not jeopardize the function bubbles (not break the bubbles).

Claims 15 and 17 are rejected under 35 U.S.C. 103(a) as obvious over (1) Carman et al. (867) or (2) WO 01/70463 **both** in view of Itoh (225).

It is the examiners position that one skilled in the art would have found it obvious to use the abrasive mass according to the primary references in any conventional manner, such as the ones defined by the secondary reference. The examiner acknowledges that the primary

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references are directed to grinding wheels, but the use of the vitrified mass as segments to be attached to a core is obvious to the skilled artisan absent evidence to the contrary.

In view of the teachings as set forth above, it is the examiners position that the references reasonably teach or suggest the limitations of the rejected claims.

"A reference is good not only for what it teaches but also for what one of ordinary skill might reasonably infer from the teachings. *In re Opprecht* 12 USPQ 2d 1235, 1236 (CAFC 1989); *In re Bode* USPQ 12; *In re Lamberti* 192 USPQ 278; *In re Bozek* 163 USPQ 545, 549 (CCPA 1969); *In re Van Mater* 144 USPQ 421; *In re Jacoby* 135 USPQ 317; *In re LeGrice* 133 USPQ 365; *In re Preda* 159 USPQ 342 (CCPA 1968)". In addition, "A reference can be used for all it realistically teaches and is not limited to the disclosure in its preferred embodiments" See *In re Van Marter*, 144 USPQ 421.

"A generic disclosure renders a claimed species prima facie obvious. *Ex parte George* 21 USPQ 2d 1057, 1060 (BPAI 1991); *In re Woodruff* 16 USPQ 2d 1934; *Merk & Co. v. Biocraft Lab. Inc.* 10 USPQ 2d 1843 (Fed. Cir. 1983); *In re Susi* 169 USPQ 423 (CCPA 1971)".

The subject matter as a whole would have been obvious to one having ordinary skill in the art at the time the invention was made to have selected the overlapping portion of the range disclosed by the reference because overlapping ranges have been held to be a prima facie case of obviousness, see *In re Malagari*, 182 U.S.P.Q. 549; *In re Wertheim* 191 USPQ 90 (CCPA 1976)".

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Evidence of unexpected results must be clear and convincing. *In re Lohr* 137 USPQ 548.

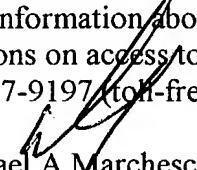
Evidence of unexpected results must be commensurate in scope with the subject matter claimed.

In re Linder 173 USPQ 356.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Michael A Marcheschi whose telephone number is (571) 272-1374. The examiner can normally be reached on M-F (8:00-5:30) First Friday Off.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Mark L Bell can be reached on (571) 272-1362. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).


Michael A Marcheschi
Primary Examiner
Art Unit 1755

MM
5/04